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ABSTRACT

In May, 1991, the North Carolina State Board of Education, as part of the Quality Assurance Program, established a computer proficiency requirement for graduation that was then modified in 1995 and made effective beginning with the graduating class of 2001. Students who were in the eighth grade during the 1996-97 school year and thereafter must meet the computer proficiency requirement in order to receive a high school diploma. This handbook was prepared as a resource for students, parents, and teachers to provide information about the computer skills proficiency requirement and its implications for students as a graduation requirement. The handbook consists of five sections: (1) "Questions About the Computer Skills Requirement"; (2) "Contents of the Computer Skills Test"; (3) "How To Take the Computer Skills Test"; (4) "Test Taking Strategies"; and (5) "Sample Test." (AEF)

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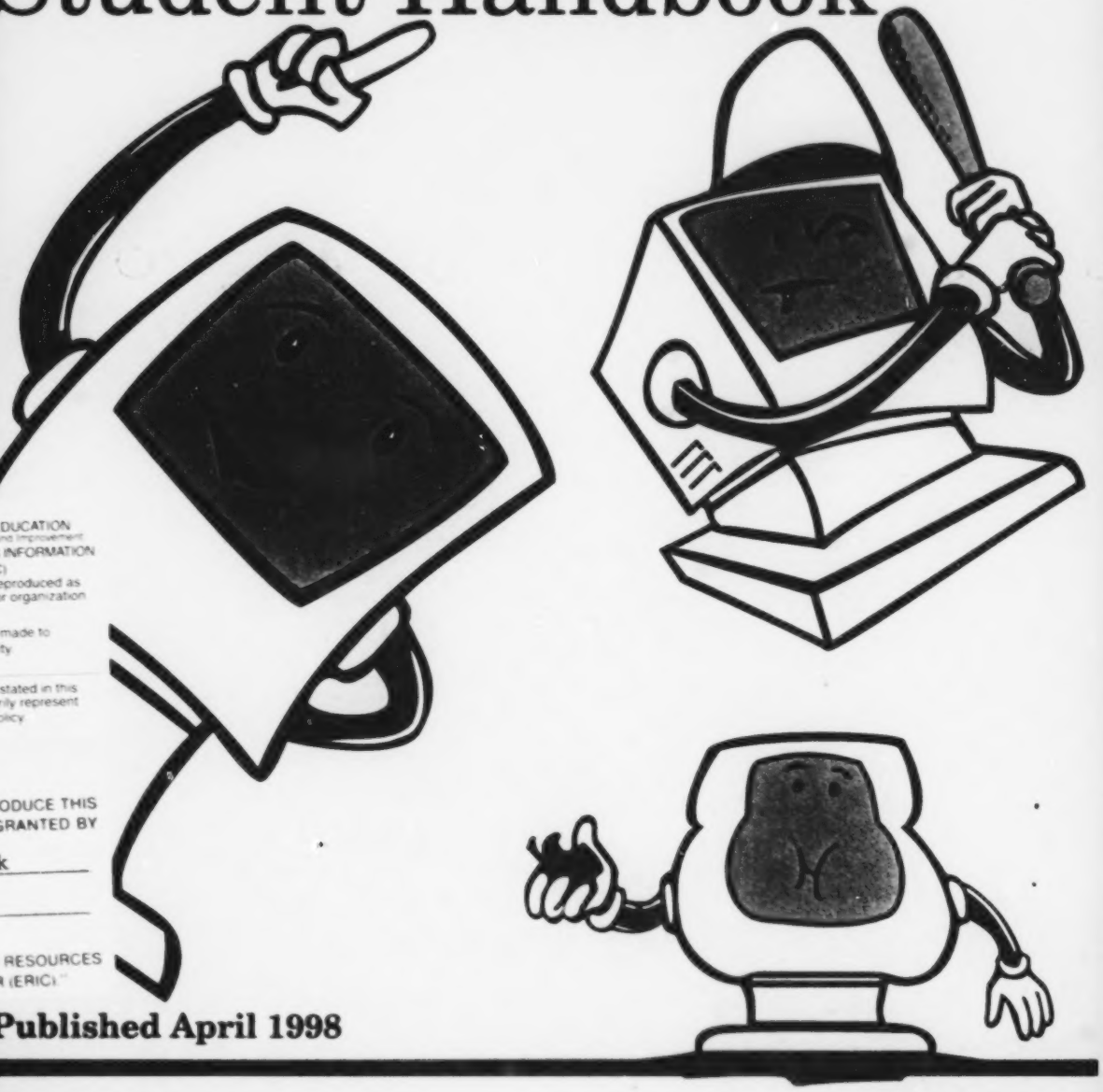
North Carolina Tests of Computer Skills Student Handbook



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Division of Accountability Services / Testing Section

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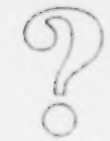

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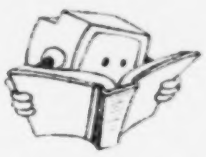

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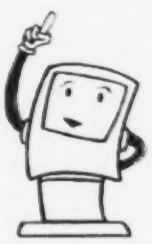

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Introduction

Competencies required of citizens in an "Information Age" have been the topic of all recent, major education initiatives, political campaigns, and presentations in the mass media. Although different groups use slightly different terms to describe them, there is general agreement that competencies for the workplace of the twenty-first century are different from those required as we emerge from the industrial era. As prediction after prediction for the twenty-first century has been made, the role of technology—specifically of computer systems—remains a primary focus.

In May 1991, the North Carolina State Board of Education, as part of the Quality Assurance Program, established a computer proficiency requirement for graduation that was to begin with the class of 2000. In October 1995, the Board modified the requirement by making it effective beginning with the graduating class of 2001. Students who were in the eighth grade during the 1996-97 school year and thereafter must meet the computer proficiency requirement in order to receive a high school diploma.

The requirement is based on the Computer Skills Curriculum, approved in July 1992, as defined in the North Carolina *Standard Course of Study*. The goal of a computer skills requirement is to foster skill development so that students have sufficient computer skills for use in high school, at home, and in the workplace.

The Computer Skills Curriculum has three major goals. The first goal is for students to understand the important issues of a technology-based society and to exhibit ethical behavior in the use of computer technology. Second, students must demonstrate knowledge and skills in using computer technology. Finally, students should be able to use a variety of computer technologies to access, analyze, interpret, synthesize, apply, and communicate information.

The Computer Skills Curriculum should be introduced collaboratively by classroom teachers, media coordinators, and computer resource teachers. The results of a carefully planned computer skills program will be students who are problem solvers, information seekers and users, and effective communicators. These students will be prepared for a technology-filled twenty-first century.

This handbook has been prepared as a resource for students, parents, and teachers to provide information about the computer skills proficiency requirement and its implications for students as a graduation requirement. In addition, this handbook provides information on what the tests are like, sample questions that measure the computer skills curriculum, and some test taking strategies. The information contained within this document should assist the targeted group in acquiring a better understanding of the computer skills proficiency requirement as a standard students must meet in order to receive a North Carolina high school diploma.

I. Questions About the Computer Skills Requirement

What is the computer skills requirement?

Students are required to demonstrate proficiency in the skills and competencies of the K-8 computer skills curriculum. This requirement is met by passing the North Carolina Tests of Computer Skills. The first opportunity to take the tests is in the eighth grade. (Students with disabilities may meet the requirement through the use of a portfolio if documented in the Individualized Education Program).

Who has to take the tests?

Students who were in the eighth grade during the 1996-97 school year and thereafter must demonstrate computer proficiency as a graduation requirement.

How many tests do I have to take?

Each student must take a multiple-choice test and a performance test. The performance test requires the use of a computer.

Why do we have a computer skills requirement?

We want to ensure that each student has sufficient computer skills to use at school and for personal use.

Are there other testing requirements for graduation?

Yes. Each student must meet the competency standard in reading and mathematics.[1]

Your school system may have other requirements. Check with a counselor when planning your high school courses. This will help you meet all requirements for a high school diploma.

[1] The first opportunity to meet this requirement is at the eighth grade. Contact your guidance counselor for more information.

How, when, and where will I take the computer skills tests?

You will be given the opportunity to demonstrate computer skills proficiency beginning in the eighth grade. Your tests will be given at your school and will not cost money.

A guidance counselor or teacher will tell you about the test schedule.

What type of computer may I use to take the performance test?

You will use the equipment in your school. With appropriate software, the test diskettes will work with Apple IIe, Macintosh, DOS, or Windows-based microcomputers.

How will I know if I have passed the tests?

Your guidance counselor or a teacher will tell you if you have met the computer skills requirement.

What if I don't pass the tests in eighth grade?

You will be given at least one opportunity each year to take the tests. Your school will provide you with the opportunity to receive extra help to develop your computer skills.

What if I pass one test but not the other?

You will need to take the test that you did not pass.

If I am a student with special needs will I get extra time to take the test?

Students with special needs <u>may</u> be able to have modifications, including extra time. The Individualized Education Program (IEP) or Written Accommodation Plan should note appropriate modifications.

If I am a student who is limited English proficient will I get extra time to take the test?

Students who are limited English proficient <u>may</u> be able to have modifications, including extra time.

Will the same test be given every year?

No, different forms of the North Carolina Tests of Computer Skills will be given. However, the objectives measured and the difficulty levels of the different forms will be the same.

How can I prepare for the tests?

Take the sample test. Check your answers. Contact your guidance counselor or a teacher if you have questions.

II. Contents of the Computer Skills Test

There are two computer skills tests, a multiple-choice test and a performance test. Each test will take about 90 minutes. To meet the graduation requirements, you must pass both tests.

The Multiple-Choice Test

The North Carolina Test of Computer Skills-Multiple-Choice will be given the way other multiple-choice tests are given (such as reading or mathematics). Students will use an answer sheet that will be machine scored. There will be 70 questions on the test. The test is based on the nine major areas of the computer skills curriculum. These areas are:

- keyboarding
- word processing/desktop publishing
- telecomputing
- database
- spreadsheet
- societal issues
- ethics
- computer terms, operation and care
- independent use of curriculum software

The Performance Test

This test takes about 90 minutes. It requires students to solve problems using software and a computer. Keyboarding, word processing, spreadsheet, and database skills are assessed on the performance test. Each section is timed.

- To assess keyboarding skills, students will be required to key a short passage, making as few errors as possible.
- The word processing section requires students to retrieve a file and to edit an existing passage.
- Students will use a prepared database and spreadsheet to answer questions. In some cases, students will need to describe how they found an answer.
- You should be able to use a database to search for information using 1 or 2 criteria.
- You should be able to use a spreadsheet to answer "What if?" questions.

III. How to Take the Computer Skills Test

Before the Tests: Practice Test

The best way to prepare for these tests is to know all that you can about the tests before you take them. Careful reading of this handbook will provide you with much information about the tests. You can become familiar with the types of test questions by trying the sample questions in this handbook. Plan ahead so that you will feel prepared.

Be sure that you are familiar with the computer, operating system, and software that you will use to take the performance part of the test. Software used for the test includes *Appleworks*, *Clarisworks*, *Microsoft Works*, *Microsoft Office*, or *First Choice*. Ask your teacher or guidance counselor about the software and computer that you will be using.

☑ Read this handbook.

☑ Do the sample items.

☑ Ask your teacher or counselor questions about parts you don't understand.

Preparation for testing is a mental and physical activity. Along with becoming familiar with the skills measured by the test, you should try to feel your best. To be alert and energetic at test time, you should get a good night's rest and eat a good, typical breakfast on the day of the test.

Before the Tests: Preparation

Plan ahead so that you will feel comfortable when you take your tests. Remember to bring your materials.

☑ Plan ahead so you don't have to rush.

☑ Wear comfortable clothing.

☑ Bring cover/work sheet paper (scratch paper) and at least two No. 2 pencils.

☑ Ask your teacher or guidance counselor if you are unsure of the materials you need to bring.

During the Tests

The person giving the tests (test administrator) will try to make the testing situation comfortable and free of distraction.

- Concentrate on the tests. Do not allow yourself to be distracted by noises or things going by the window.
- Do the best that you can on your tests.
- You should try to answer each question.
- Schedule your time, follow directions, and use good test taking strategies.

During the Tests: Scheduling Your Time

- Arrive on time so that you will be able to get organized before each test.
- Make sure that you understand the time restrictions for your tests.
- Keep working until you have finished the test. Some students may finish before you do.
- Avoid unnecessary clock watching. It breaks concentration and causes anxiety.
- If you finish before others, check your work.

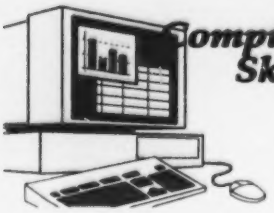
During the Tests: Following Directions

- Pay close attention to the sample exercises. These exercises are to help you understand what the items will be like. You will also learn how to mark your answers on the answer sheet.
- If you do not understand the directions, raise your hand and ask questions.
- For multiple choice questions, mark only within the answer circle.
- Erase all changed answers carefully. For multiple choice questions, if the circle disappears, do not redraw it.
- Erase all stray answers on your answer sheet. Stray marks may cause answers to be scored incorrectly.

IV. Test Taking Strategies

General Strategies

- Read the whole question. Think about what the question asks before choosing your answer.
- Answer the easier questions first.
- Come back to difficult questions. Try to eliminate some of the choices. Choose the best answer.
- Try to answer every question.
- Don't spend too much time on any one question.
- When you mark each answer, make sure that the number on the answer sheet matches the number of the question you are working on.
- Check your answers for mistakes.
- Go back and recheck your answers if you finish before your classmates.
- Follow all directions. Ask questions if you don't understand the directions.



V. Sample Test Questions

North Carolina Tests of Computer Skills

Multiple-Choice Test This test consists of 70 questions that ask you about the use of computers in society, hardware and software components, keyboarding, and how to use specific software applications—word processing, database, spreadsheet, and telecomputing.

Directions: To answer a question, first decide which is the ***best*** answer choice for a particular question. Then, find the question number on your answer grid (below) and make a mark in the circle containing the letter of the correct answer. Remember to mark only one answer for each question.

1	Ⓐ	Ⓑ	Ⓒ	Ⓓ
2	Ⓐ	Ⓑ	Ⓒ	Ⓓ
3	Ⓐ	Ⓑ	Ⓒ	Ⓓ
4	Ⓐ	Ⓑ	Ⓒ	Ⓓ
5	Ⓐ	Ⓑ	Ⓒ	Ⓓ
6	Ⓐ	Ⓑ	Ⓒ	Ⓓ
7	Ⓐ	Ⓑ	Ⓒ	Ⓓ
8	Ⓐ	Ⓑ	Ⓒ	Ⓓ
9	Ⓐ	Ⓑ	Ⓒ	Ⓓ

Performance Test This test consists of four parts—Keyboarding Techniques, Word Processing/Editing, Database Use, and Spreadsheet Use—that assess how well you can use specific software applications.

Directions: Read the directions at the beginning of each part. Then complete the task or questions. For the Keyboarding Techniques and Word Processing/Editing parts you must print out your work. For the Database Use and Spreadsheet Use parts you should mark your answers in the space provided next to each question.

Multiple-Choice Test

1. Doing research by using an on-line database instead of a printed set of similar information offers which advantage?

   A more current information

   B better charts

   C easier to understand tables

   D more legible diagrams

2. Upon walking into Mr. Johnson's workroom, Daryl saw a test for tomorrow on the computer screen. Which of the following can Daryl ethically do?

   A Correct obvious errors on the test to help Mr. Johnson avoid embarrassment.

   B Read the questions as a study guide.

   C Add a few well-chosen questions that Mr. Johnson left out.

   D Leave the room without reading the test questions.

3. What is the function of a disk drive?

   A to print sheets of paper

   B to read from or write information to a floppy disk

   C to display information or pictures on a screen

   D to calculate numbers

4. For a social studies report, Fred needs to illustrate the products of North Carolina with pictures and comparison graphs. He would ***most likely*** use which software programs?

   A spreadsheet and statistical

   B spreadsheet and database

   C graphing and clip art

   D clip art and drawing

5. For correct keyboarding, what is the recommended placement of fingers on the home row keys?

   A fingers of the left hand on A-S-D-F and fingers on the right hand on J-K-L-;

   B fingers of the right hand on A-S-D-F and fingers on the left hand on J-K-L-;

   C fingers of the left hand on A-S-E-F and fingers on the right hand on J-K-O-P

   D fingers of the left hand on Q-W-E-R and fingers on the right hand on U-I-O-P

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6. Jim is typing a song on his word processor. The song has four verses, and the chorus is repeated after each verse. What would be the ***most efficient*** way to enter the song, making sure the chorus is repeated after each verse?

   A type the chorus four times

   B copy the chorus on a copy machine and then cut and paste it into his document

   C use the Copy Command on his word processor

   D highlight the text and change it to **Bold**

7. Which is ***not*** an advantage of using computerized spreadsheets?

   A speed of calculation

   B flexibility of moving entries

   C cost of initial set-up

   D ability to generate tables

8. Bob Smith plans to run for governor of North Carolina. One part of his platform deals with increasing medical services to rural areas. Which of the following will ***best*** help determine where money should be spent to open clinics?

   A Search a NC database for type of community = "rural" and then Sort on the field showing the number of doctors.

   B Sort a NC database on the type of community and then Search number of doctors < = 5.

   C Search a NC database for type of community = "rural" and then Search number of doctors < = 5.

   D Sort a NC database on the type of community and then Sort on the field showing the number of doctors.

9. Using an electronic bulletin board, Andy can do all of the following ***except*** which one?

   A send private messages to a friend

   B send a public message to friends interested in one topic

   C send pictures to a friend

   D send a package to a friend

Performance Test
Part I: Keyboarding Techniques

Directions:

1. **Key as accurately as possible the paragraphs below. Remember to use correct keyboarding techniques. Note: Do not worry about any differences in word wrap between what you type and how the paragraphs appear on this page.**
2. **When you have finished keying the paragraphs, print your work.**

USING DATABASES IN THE SOCIAL STUDIES CLASS

In our eighth grade social studies class we are using computers with a database program. When we need information on a country, we look up the name of the country on an atlas program. We have six different diskettes.

Yesterday, we were doing a project on the United States of America. One of our assignments was to find the following:

North Carolina
Utah
New Mexico
Vermont
Florida
Texas.

Performance Test
Part II: Word Processing/Editing

Directions:

1. **Edit the paragraph below. You may use the "Edit Symbol Reference Table" provided below if you need assistance.**
2. **When you have finished editing the paragraph, print your work.**

Edit Symbol Reference Table

≡ capitalize	]C[center
lc lower case	] indent
ℓ delete	^ insert
— replace word	move
# insert space	spell out
¶ new paragraph	

] USING DATABASES FOR SOCIAL STUDIES [

In our eighth grade social studies class we are using computers with a database program. When we need information on a country, we look up the# name of the country on an atlas program. We have six different diskettes.

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Performance Test
Part III: Database Use

Directions: Use your database program and the file called PLANETS.

1. Read the *scenario*.
2. Use the database file to respond to the questions below.
3. When asked to "describe the steps you took to find your answer," use appropriate database terms. For example, "Sorted the Number of Moons field in descending order" or "Searched the Number of Moons field for all records greater than 2."

Scenario:

Your eighth grade science classes have entered a contest to build a new solar system. Before you start making planets for the solar system in your class, you must gather data on each planet. Use the database PLANETS to find the data you need.

Sample Record from PLANETS Database.

Planet:	Earth
Prob Temp (F):	72
Number of Moons:	1
Length of Year:	365.3
Gravity at Surf:	1
Dist from Sun:	93,000,000
Atmosphere:	nitrogen, oxygen, carbon dioxide, water vapor

_____ 1. Which planet has the smallest Gravity at Surface?

_____ 2. Which planet, with surface gravity (Gravity at Surf) of at least 1.10, has the most moons?

Explanation: Use database terms to describe the steps you took to find your answer.

_____

_____

_____

Performance Test
Part IV: Spreadsheet Use

Directions: Use your spreadsheet program and the file called NUTRIENTS.

1. Read the *scenario*.
2. Use the spreadsheet file to respond to the questions below.

Scenario:

The school cafeteria staff is letting your class plan the meals for a week. You can serve pizza, but you also must serve one plate of "regular" food. Use the spreadsheet NUTRIENTS to help plan the meals.

Excerpt from NUTRIENTS Spreadsheet.

Item	Qty. Servings	Protein (grams)	Vitamin C (mg)	Calcium (mg)	Iron (mg)
Chicken Drumstick	0	0	0	0	0
Hamburger Patty	0	0	0	0	0
Fresh Spinach	0	0	0	0	0
Baked Potato	0	0	0	0	0
Fresh Corn	0	0	0	0	0
Cooked Fresh Carrots	0	0	0	0	0
Raw Cabbage	0	0	0	0	0
Banana	0	0	0	0	0
Apple	0	0	0	0	0
Total Nutrients:		0	0	0	0

_____ 1. How many milligrams (mg) of Iron are in 2 Bananas and 4 servings of Fresh Spinach?

_____ 2. How many servings of Cooked Fresh Carrots will give the same amount of calcium as 24 servings of Apples?

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Answers to Sample Tests and Notes

Multiple-Choice Test

1. The correct answer is A. This question measures how well you understand how computers are used as a tool for accessing information.

2. The correct answer is D. This question measures how well you understand the ethical use of computers and respect the computer-generated work of others.

3. The correct answer is B. This question measures your understanding of the components of a computer—hardware and software. You may also be asked about other physical components of a computer, their function, and use.

4. The correct answer is C. This question measures your knowledge of the use of software in various subjects to solve problems. You may also be asked about other types of software, e.g., probeware used in science, database programs in social studies.

5. The correct answer is A. This question measures your knowledge of correct keyboarding skills and finger placement on the home row keys.

6. The correct answer is C. This question measures you ability to use the Copy and Paste functions while word processing. You may also be asked about other functions (e.g., Move, Print) and utilities (e.g., spell checker, grammar checker), and about producing desktop published documents.

7. The correct answer is C. This question measures your understanding of the advantages (or disadvantages) of using a computerized spreadsheet versus a printed spreadsheet. You may also be asked to use a spreadsheet to test simple "What if?" statements.

8. The correct answer is A. This question measures your ability to use sorting and searching techniques to solve a problem while using a database program.

9. The correct answer is D. This question measures your understanding of how an electronic bulletin board works.

Performance Test

Part I: Keyboarding Techniques. This task is scored for typing accuracy, spacing, and length.

Part II: Word Processing/Editing. This task is scored for the number of correct edits and if other errors are made while editing.

Part III: Database Use.

1. The correct answer is "Pluto." This question measures your ability to Sort a database.

2. The correct answer is "Saturn." Your answer is also scored for how well you explain how you determined your answer to the question ("I searched the field Gravity at Surf > or = 1.10 and then sorted the records on the field Number of Moons in descending order.") This question measures your ability to use searching and sorting techniques to solve a problem.

Part IV: Spreadsheet Use.

1. The correct answer is 6.8. This question measures your ability to use a spreadsheet to test simple "What if?" statements.

2. The correct answer is 5. This question also measures your ability to use a spreadsheet to test simple "What if?" statements.